

IN THE SPECIFICATION:

Please amend the paragraph starting at page 1, line 11 and ending at line 22, as follows:

--An ink-jet recording system is a system in which minute droplets of an ink are ejected by any one of various operation principles to apply them to a recording medium such as paper, thereby making a record of images, characters and/or the like. An ink jet recording system like; has such features that recording can be conducted at high speed and with a low noise, multi-color images can be formed with ease, printing patterns are very flexible, and development is unnecessary. These systems have, and is hence developed into information instruments led by printers and include including copying machines, word processors, facsimiles and plotters, so that and have become it is rapidly widespread.--

Please amend the paragraph starting at page 2, line 5 and ending at line 9, as follows:

--Improvements in recording apparatus and recording systems, such as increased speed speeding up and high definition of recording, and full-coloring of images, have thus been made, and recording media have also been required to have higher properties.--

Please amend the paragraph starting at page 2, line 10 and ending at page 3, line 1, as follows:

--With respect to recording media used in ink-jet recording and the like, a wide variety of recording media has heretofore been proposed. For example, Japanese

Patent Application Laid-Open No. 52-53012 discloses paper for ink-jet recording, in which a base paper web having a low sizing degree is impregnated with a surface coating.

Japanese Patent Application Laid-Open No. 53-49113 discloses paper for ink-jet recording, in which a sheet containing urea-formalin resin powder therein is impregnated with a water-soluble polymer. Japanese Patent Application Laid-Open No. 55-5830 discloses paper for ink-jet recording, in which a coating layer having good ink absorbency is provided on a surface of a base material. Japanese Patent Application Laid-Open No. 55-51583 discloses an example in which non-crystalline silica is used as a pigment in a coating layer. Japanese Patent Application Laid-Open No. 55-146786 discloses an example in which a coating layer formed of a water-soluble polymer is used.--

Please amend the paragraph starting at page 3, line 9 and ending at line 21, as follows:

--For example, U.S. Patent Nos. 4,879,166 and 5,104,730, and Japanese Patent Application Laid-Open Nos. 2-276670, 4-37576 and 5-32037 disclose recording media in which a layer containing an alumina hydrate of a pseudoboehmite structure is used as an ink-receiving layer. Such pseudoboehmite can be produced by any conventional method such as the hydrolysis of an aluminum alkoxide or sodium aluminate. In the case of a recording medium produced by using the pseudoboehmite obtained by such a method in a coating formulation, ~~it can be provided~~ a recording medium can be provided that is better in fixing of a dye in an ink and high in coloring ability and gloss compared with the conventional recording media.--

Please amend the paragraph starting at page 3, line 22 and ending at line 27, as follows:

--On the other hand, Japanese Patent Application Laid-Open No. 10-129112 describes a sheet for ink-jet recording in which an ink-receiving layer using fine aluminum oxide particles of the  $\gamma$ -crystal structure having an average particle diameter of at most 200 nm is formed on a base material of a synthetic resin sheet.--

Please amend the paragraph starting at page 4, line 1 and ending at line 26, as follows:

--The present inventors have carried out an extensive investigation with a view toward further more improving the surface strength of a receiving layer of a recording medium having a layer containing alumina hydrate typified by pseudoboehmite to provide a recording medium having recording properties comparable with the above recording medium using crystalline aluminum oxide particles. The present inventors have paid attention to aluminum oxide particles (hereinafter referred to as  $\gamma$ -alumina) having the  $\gamma$ -crystal structure. However, the conventionally sold  $\gamma$ -alumina particles have been subjected to a sintering step in their production process, and so only particles having a great-particle diameter have been provided due to their aggregation during the sintering step, although these particles have comparatively high hardness. Therefore, any recording medium comprising the conventional  $\alpha$ -alumina as a main component is low in gloss, and so only a substantially dull image has been able to be provided. When the surface of such a recording medium has been subjected to a physically smoothing treatment by a calender or the like to impart high gloss, the gloss has been somewhat improved, but the recording

medium thus treated has involved a problem that the ink absorbency thereof is deteriorated.--

Please amend the paragraph starting at page 6, line 24 and ending at page 8, line 1, as follows:

--The  $\gamma$ -alumina particles used in the present invention are such that the average particle diameter is at least 0.21  $\mu\text{m}$ , but at most 1.0  $\mu\text{m}$ , preferably at most 0.5  $\mu\text{m}$ , and that at least 90 % of all particles of the  $\gamma$ -alumina have a particle diameter of at most 1.0  $\mu\text{m}$ . In the present invention, the particle size distribution is a value measured by means of a particle size distribution meter (LS230, trade name, manufactured by Coulter Co.). If the average particle diameter exceeds 1.0  $\mu\text{m}$ , or the condition conditions that at least 90 % of all particles of the  $\gamma$ -alumina have a particle diameter of at most 1.0  $\mu\text{m}$  is are not satisfied even when the average particle diameter is at most 1.0  $\mu\text{m}$ , the desired glossiness cannot be achieved. In addition, a problem that no sufficient coloring ability is achieved arises because scattering of light in the resulting ink-receiving layer becomes great. If the average particle diameter is smaller than 0.21  $\mu\text{m}$ , high color density and glossiness are achieved, but the ink absorbency of the resulting ink-receiving layer is deteriorated, and so in some images an ink may overflow to mix it with another dot, thereby lowering the clearness or evenness of the image. Therefore, such a recording medium is not suitable for use in full-color recording. This problem is particularly marked in a photoprinter because a great amount of inks are applied at a short time interval. Incidentally, the term "photoprinter" as used herein is means a generic term for of printers capable of forming images comparable to with silver halide photographs.--

Please amend the paragraph starting at page 9, line 3 and ending at page 10, line 2, as follows:

--The  $\gamma$ -alumina used in the present invention can be obtained by heating and calcining boehmite or pseudoboehmite produced by any conventional method such as the hydrolysis of an aluminum alkoxide or sodium aluminate at a temperature of, for example, 400 to 600°C. The  $\gamma$ -alumina particles obtained by this method are particles high in hardness. The formation of an ink-receiving layer composed mainly of such particles is preferred from the viewpoint of formation of an ink-receiving layer high in surface strength. However, the  $\gamma$ -alumina particles formed in the above-described manner generally have a particle diameter at the micron size scale, since they have undergone aggregation in the calcination. In the present invention, such coarse particles of the  $\gamma$ -alumina are treated to adjust their average particle diameter and particle size distribution to the desired values. The  $\gamma$ -alumina before the treatment is preferably in the form of flake or needle as the form of primary particles. When an ink-receiving layer is formed by using the  $\gamma$ -alumina obtained in the above-described manner, the resultant ink-receiving layer is high in ink absorbency and dye-fixing ability, and resistant to hard to cause cracking upon the formation of a film. As the  $\gamma$ -alumina of a starting material, ~~may also be used~~ commercially available particles may also be used.--

Please amend the paragraph starting at page 10, line 6 and ending at line 13, as follows:

-- $\gamma$ -Alumina of a starting material is first dispersed in purified water while conducting agitation. Since the particle diameter of such  $\gamma$ -alumina generally exceeds 1

µm, it tends to precipitate when it is left to stand without conducting agitation. A dispersing agent may be used if necessary. As the dispersing agent, ~~is preferred~~ an acid such as hydrochloric acid, nitric acid or acetic acid, or a surfactant are preferred.--

Please amend the paragraph starting at page 10, line 18 and ending at line 25, as follows:

--Finally, coarse particles at the micron size scale are removed by a separating treatment to give the desired average particle diameter and particle size distribution. As a method therefore, ~~may be used~~ a method in which a supernatant is taken out by stationary sedimentation, a method by centrifugation, a method by a filter such as ultrafiltration, or the like may be used.--

Please amend the paragraph starting at page 13, line 14 and ending at page 14, line 2, as follows:

--In the recording medium having the ink-receiving layer according to the present invention, as a method for forming the ink-receiving layer on the base material, ~~may be used~~ a method of coating the base material with a dispersion containing the  $\gamma$ -alumina by means of a coating device and drying it may be used. As the coating method, ~~may be used~~ a generally-used coating technique making use of a blade coater, air knife coater, roll coater, curtain coater, bar coater, gravure coater, sprayer or the like may be used. The coating weight of the dispersion is preferably within a range of from 0.5 to 60 g/m<sup>2</sup>, preferably 5 to 45 g/m<sup>2</sup> in terms of dry solids content. After the coating, the surface

smoothness of the resulting ink-receiving layer may also be improved by means of a calender machine or the like as needed.--

Please amend the paragraph starting at page 14, line 3 and ending at line 10, as follows:

--The present invention will hereinafter be described more specifically by the following Examples. However, the present invention is not limited to these examples. The measurements of physical properties were conducted in accordance with the following respective methods. Incidentally, all designations of "part" or "parts" as will be used in the following examples mean part or parts by weight unless expressly noted otherwise--

Please amend the paragraph starting at page 18, line 15 and ending at page 19, line 4, as follows:

--A commercially available  $\gamma$ -alumina (AKP-G015, trade name, product of Sumitomo Chemical Co., Ltd.) was used as it is and dispersed in purified water at a concentration of 20 % by weight by using acetic acid as a dispersing agent. An alumina dispersion was obtained in the same manner as in EXAMPLE 1, † except that neither the treatment by the ultrasonic dispersing machine nor the removal of coarse particles by the centrifugal separating treatment was conducted ~~was used as an alumina dispersion~~. The median of particle size distribution AKP-G015 was 2.4  $\mu\text{m}$ . Recording Medium 4 was produced in the same manner as in EXAMPLE 1, † except that this dispersion was used, to conduct a test. The data of the  $\gamma$ -alumina are shown in Table 1. The optical density of an

image formed on this recording medium and the glossiness thereof were measured. The measurement results are shown in Table 1. No surface gloss was observed.--

Please amend the paragraph starting at page 19, line 7 and ending at line 23, as follows:

--AKP-G015 used in COMPARATIVE EXAMPLE 1 was used as it is and dispersed in purified water at a concentration of 20 % by weight by using acetic acid as a dispersing agent. An alumina dispersion was obtained in the same manner as in EXAMPLE 1, † except that only the treatment by the ultrasonic dispersing machine was conducted, and the removal of coarse particles by the centrifugal separating treatment was not conducted ~~was used as an alumina dispersion~~. Recording Medium 5 was produced in the same manner as in EXAMPLE 1, † except that this dispersion was used, to conduct a test. The data of the  $\gamma$ -alumina after the treatment are shown in Table 1. The optical density of an image formed on this recording medium and the glossiness thereof were measured. The measured values are shown in Table 1. Surface gloss was somewhat observed, but its value was not very great.--